

INSAH CLAIMS:

1. A wireless network comprising at least a base station (1 to 3) and a plurality of assigned terminals (4 to 14) for exchanging user data and control data, characterized

in that the base station (1 to 3) includes a device (21, 22) for correlating a signaling sequence transmitted by at least one terminal (4 to 14) to indicate the wish to use a contention channel and for detecting the pulse evolved from a received and correlated signaling sequence, and

in that the base station (1 to 3), after the detection of a signaling sequence, is provided for transmitting a provision message over a contention channel to be used by the assigned terminals (4 to 14).

2. A wireless network as claimed in claim 1, characterized in that

a terminal (4 to 14) is provided for transmitting a signaling sequence during a certain time slot of a transmitting-end reference frame and, after receiving a provision message from the base station (1 to 3), for transmitting a terminal identification and/or data packets over at least one contention channel.

3. A wireless network as claimed in claim 1, characterized

in that the base station (1 to 3) includes a matched filter (21) for generating at least one pulse after a signaling sequence has been received, and a peak detector (22) and

in that during a certain time slot of a transmitting-end reference frame the peak detector (22) is provided for detecting a peak on the output of the matched filter (21).

4. A wireless network as claimed in claim 1, characterized in that

a terminal (4 to 14) is provided for transmitting a Gold, Kasami or Golay sequence as a signaling sequence during a specific time slot of a transmitting-end reference frame.

- 5 5. A wireless network as claimed in claim 1,
characterized in that

the base station (1 to 3) is provided for transmitting the provision message over one or more contention channels to be used by the terminals (4 to 14) after the detection of a signaling sequence.

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6. A wireless network as claimed in Claim 1,
characterized in that

a terminal (4 to 14) is provided for the retransmission of a signaling sequence when within a predefined period of time the terminal (4 to 14) has received no
15 acknowledgement of the reception of the signaling sequence or, after a contention channel has been assigned, no acknowledgement of the reception of data from the base station (1 to 3) transmitted over the contention channel.

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7. A wireless network as claimed in claim 1,
characterized in that

a terminal (4 to 14) is provided for retransmission of a signaling sequence with increased energy up to a maximum energy value when, within a predefined period of time, the terminal (4 to 14) has not received an acknowledgement of the reception of the signaling sequence from the base station (1 to 3).

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8. A wireless network as claimed in claim 2,
characterized in that

a terminal (4 to 14) is provided for transmitting a signaling sequence during one of various determined time slots of a transmitting-end reference frame and,

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after reception of a provision message from the base station (1 to 3), is provided for transmitting a terminal identification and/or data packets over at least one contention channel only when the provision message also indicates the respective time slot.

9. A wireless network as claimed in claim 1,

characterized in that

a terminal (4 to 14) is provided for transmitting a signaling sequence which is part of a multiplicity of signaling sequences to be used in a radio cell.

- 5 10. A wireless network as claimed in claim 9,
characterized in that

a terminal (4 to 14) is provided for selecting a signaling sequence to request one or a plurality of contention channels having different data rates from the base station (1 to 3).

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- ~~11.~~ A base station (1 to 3) in a wireless network for exchanging user data and control data including a plurality of assigned terminals (4 to 14),
characterized

15 in that the base station (1 to 3) includes a device (21, 22) for correlating a signaling sequence transmitted by at least one terminal (4 to 14) to indicate the request to use a contention channel and for detecting the pulse evolved from a received and correlated signaling sequence and

20 in that, after the detection of a signaling sequence, the base station (1 to 3) is provided for transmitting a provision message over a contention channel to be used by the assigned terminals (4 to 14).

- ~~12.~~ A terminal in a wireless network for exchanging user data and control data with at least one base station (1 to 3) and further terminals (4 to 14),
characterized in that

25 the terminal (4 to 14) is provided for transmitting a signaling sequence in the case of a request for use of a contention channel and for receiving a provision message from the assigned base station (1 to 3) over a contention channel to be used after the base station (1 to 3) has detected the signaling sequence.

- 30 ~~13.~~ A method of exchanging user data and control data in a wireless network between at least a base station (1 to 3) and a plurality of assigned terminals (4 to 14),
characterized

in that a signaling sequence transmitted by at least one terminal (4 to 14) to indicate the request for use of a contention channel is correlated in the base station (1 to 3) and the peak evolving therefrom is detected, and

- 5 in that, after the detection of a signaling sequence, a provision message is transmitted by the base station (1 to 3) over a contention channel to be used by one of the assigned terminals (4 to 14).

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